

**Project Report
Evaluation of the Impacts of the
IDRC-Funded Research Projects
on Social Sciences**

by

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Preface

The evaluation of the impacts of research projects in social sciences, which were funded by the IDRC; was conducted under the DTEC. The three projects were: "Research for the Development of Provincial Educational Planning" (RDPEP), "Land Distribution and Employment" (LDAE) and "A Study on Collection and Storage of Roof Runoff for Drinking Purposes" (SCSRRDP).

This evaluation aimed at studying the overall impacts of the research projects in social sciences. This report is presenting only the major elements of the three projects which are relevant to the evaluated impacts. These impacts are based on the collection of information from interviews, field work, analysis of procedures, and observations made by the evaluators.

Even though the time constraint made it impossible to carry out an in-depth investigation of the validity of data, the evaluations had conducted a technical investigation of the agreement of data by interviewing different groups of relevant personnel on the similar aspects. An investigation of agreement between the data and general evidence was also made during the field evaluation. It is therefore hoped that the conclusion presented here is highly reliable.

This evaluation has succeeded because of the assistance and cooperation from various departments and organizations, from different groups of personnel and individuals. The DTEC and IDRC had given the monetary support, with coordination from Khun Pissamai Tanabadi; Agricultural Land Reform Office, gave assistance via the coordination of Dr. Sutthiporn Jerapan, Khun Worawet Tamrongtanyalak and Khun Youngyut Tuangchaitanakorn. In addition, Dr. Chayatit Vadhanavikkit, the leader of SCSRRD Project, the researchers from the three projects and personnel from various departments and organizations had given valuable opinions for this evaluation.

The evaluators are grateful to all persons listed above and to all that assisted in the completion of this work. Due to the constraints of time, there could be some mistakes and shortcomings for which the evaluators would be grateful for advices and recommendations.

Yaowadee Wiboonsri and the team
February 29, 1988.

Chapter 1 Introduction

Rationale

The Royal Thai Government has received monetary support for research projects on various aspects from the IDRC; in order to apply the research findings in the development of the country's agriculture, nutrition, administration, public health, education, population, and water resources. Until 1985, IDRC had supported about 100 project, at the amount of approximately Canada \$ 12.25 or B 233 millions. Some of these projects have been successfully completed while some others are still on-going. There is also a trend towards a continuation of support from the IDRC in the future.

The Department of Economic and Technical Cooperation (DTEC) and IDRC saw the necessity to conduct and evaluation of the impacts from the completed research project; for the benefits in setting up policies, procedures, and determining a means to promote the efficiencies of the research projects; which would ultimately benefit the future development of the country. The general aim of this evaluation was to study the usefulness or value of the projects which would be applicable to various aspects of the country development. It also aimed at studying the shortcomings or obstacles which prevented utilization of the research results, and to obtain approaches or recommendations useful for the development of the country.

In order that this evaluation was in agreement with the workshop "The Model Construction for the Evaluation of Impacts of the IDRC-funded Projects" which was organized by the DTEC during November 14-15, 1986 ; the DTEC categorized the projects to be evaluated into three groups, namely: the projects on public health, the projects on social sciences, and the projects on agriculture. This report will be dealing with the evaluation of the impacts of the projects on social sciences only.

Objectives of the Evaluation

The objectives of this evaluation were as follow:

1. To be informed of different impacts of projects on social sciences which had been supported by the IDRC. These impacts includes direct impacts, indirect impacts, and other possible impacts.
2. To study the problems or obstacles towards the utilization of research results in the country development.
3. To find an approach which would assist the IDRC

project to create impacts for the country development.

Scope of Evaluation

1. The evaluation would be conducted only on the impacts of the projects on social sciences.

2. The projects on social sciences to be evaluated included:

2.1 Research for the Development of Provincial Educational Planning (1982-1984)

This project was conducted by the National Education Committee, Office of the Prime Minister, and the Office of the Permanent Secretary, Ministry of Education. The aims were to study the conditions of education planning at provincial levels and to develop an appropriate and practicable planning model. The project site covered 5 provinces: Royong, Naratiwas, Pitsanulok, Buriram, and Lampang.

2.2 Land Distribution and Employment (1980-1981)

This project was conducted by the Agricultural Land Reform Office, Ministry of Agriculture and Co-operative with an aim to study the condition of land occupation and landlessness in twelve provinces: Lopburi, Angthong, Nakornnayok, Supanburi, Singburi, Petchaboon, Chainat, Pijit, Saraburi, Ayudhya, Nakornsawan, and Nakornrajsima.

2.3 A Study on Collection and Storage of Roof Runoff for Drinking Purposes (1981-1983)

This project was carried out by a research team from the Faculty of Engineering, Khon Kaen University, aiming at surveying the conditions of rain water collection and at construction storage tanks in Khon Kaen.

3. The impacts of the research projects in social sciences can be defined as conclusion of results obtained from the evaluative data.

The Evaluative Model and the Method of Presentation of Results

The evaluators had applied the two principles of evaluation, eg., "top down", and "bottom up". "Top down" evaluation means the collection and analysis of the opinions are carried out from personnel at a higher level to those at a lower level. "Bottom up" evaluation means the collection and analysis of the opinions are done from personnel at a lower level to those at a higher level. The data from documents and apparent evidence were taken into account in this respect. Moreover, both the real impacts and the possible impacts were analysed.

Since the three projects were different in nature , the report will be made separately. Then finally a conclusion will be made so that the overall aspects of the research on social sciences can be viewed. Recommendations will be added at the end to promote the efficiency of research into this area.

Organization

This presentation consists of 4 chapters:

Chapter 1 : Introduction, including rationale, objectives, scope, model, method of presentation and definition of abbreviations.

Chapter 2 : Important elements of the research projects being evaluated.

Chapter 3 : Methods of evaluation of each project, emphasizing the impacts, problems and recommendations related to that project.

Chapter 4 : Conclusion of major impacts of the three projects, including observed facts, problems and recommendations to relevant personnel or departments/ organization.

Definitions of terms

1. Impact means the outcome which arises after the Project ends and can be either positive or negative
2. Direct impact means intended outcome
3. Indirect impact " unintended outcome
4. Possible impact " the outcome of the project which can possibly arise

- | | | | |
|-----|-------|---|---|
| 1. | ALRO | = | Agricultural Land Reform Office |
| 2. | IDRC | = | International development
Research Centre |
| 3. | ARTEP | = | Asian Regional Team for
Employment Promotion |
| 4. | FAO | = | Food and Agricultural Organization |
| 5. | UNDP | = | United Nations Development
Population |
| 6. | PDA | = | The Population and Community
Development Association |
| 7. | CIDA | = | The Canadian International
Development Agency |
| 8. | NSO | = | National Statistical Office |
| 9. | NESDB | = | National Economics and
Social Development Board |
| 10. | KKU | = | Khon Kaen University |
| 11. | NEC | = | National Education Committee |

- 12. RDPEP = Research for the Development of Provincial Educational Planning
- 13. LDAE = Land Distribution and Employment
- 14. SCSRRDP = A Study on Collection and Storage of Roof Runoff for Drinking Purpose

Chapter 2 The Important Elements of Each Project

Project No 1 " Research for the Development of Provincial Education Planning"

Personnel/organization in charge : NEC and The Office of Permanent Secretary, Ministry of Education

Project period : 1982-1985.

Aim : To develop education planning system at provincial level.

Objectives : 1. To study the current conditions problems, and obstacles of the structure of education planning.
2. To study the current conditions, problems; and obstacles of the processes of education planning.
3. To give recommendations on the methods to increase the efficiency of education planning.

Project site : 1. Experiment on the use of synthesized mapping in Naratiwas, Buriram, Rayong, Pitsanulok.
2. NEC also conducted a parallel experiment in Lampang.

Procedures of project No 1 (RDPEP)

Project implementation divided into 3 Stages:

1. Survey current conditions, problems and obstacles of the structure as well as the processes of education planning, make conclusions, and arrange a seminar for administrators at very high levels.

2. Synthesize a model for education planning, produce a manual on planning.

3. Experiment on the planning model and recommendations from the survey in Naratiwas, Buriram, Rayong, Pitsanulok, and Lampang.

Conclusion of Important Elements from the Research Results

1. Model of educational development planning at provincial level.

1.1 Planning Committees. There were 3 committees:-

1.1.1 Provincial Development Policy Making Committee which consisted of Provincial Development Committee (PDC)

1.1.2 Directing and Coordinating Committee on Education Planning, consisting of Sub-Committee on provincial Development: Education Section. (SCPD-ES)

1.1.3 Provincial Education Planning Working Group (PEPW)

1.2 Planning Steps

1.2.1 The provincial education planning working group drafted the policy in educational development at provincial level.

1.2.2 The sub-Committee on Provincial Development: Education Section screened the policy and submitted it to the Provincial Development Committee for approval.

1.2.3 The working group prepared the work plan and project in accordance with the approved policy.

1.2.4 The Sub-Committee on Provincial Development: Education Section considered the work plan and project and suggested the improvement before submitting to the PDC for approval.

1.2.5 The provincial educational development plan was submitted to the Ministry of Education for final approval and allocation of budget.

2. The results of experiment on the use of the model

It could be concluded that in general the committee had successfully conducted this experiment. However, there were some problems:-

2.1 The attitudes and the roles of SCPD-ES in the planning were not appropriate. Inadequate attention was paid towards planning. Mostly, the working group worked independently without a close coordination with SCPD-ES.

2.2 The potentiality of the working group of each province was different, depending on the technical environment of the province.

2.3 There was no information center for the planning; the information contradicted against one another.

2.4 The working group was inexperienced and lacked specific technical knowledge.

2.5 At the beginning stage, each working unit lacked qualified planning team.

Project No 2 "Land Distribution and Employment"

Personnel/organization in charge : Office of Land Reform

Project period: January 1980-June 1981

Objectives : 1. To approximate the number and proportion of landless or nearly landless household in rural areas.

2. To analyse the economic and social status, and migration of landless or landpoor population.

3. To determine the factors behind the landlessness and set up a future trend of rural economic systems which are influenced by these factors.

4. To recommend means for the setting up of a policy to solve the problem of landlessness in agricultural sectors.

5. To recommend strategies to solve the problems of landlessness in accordance with the set policy.

Project site : The 12 surveyed provinces were : Ayudhya, Angthong, Supanburi, Nakornnayok, Saraburi, Lopburi, Nakornrajsima, Singburi, Chainat, Pijit, Nakornsawan, and Petchaboon.

Procedures:

1. Collect secondary information from relevant governmental organizations, plan the field work from Norember 1980-February 1981, construct questionnaire, and conduct a preliminary test in order to obtain a perfect questionnaire.

2. Collect field information in sampled villages from March-May, 1981 by 4 survey teams, each spending 60 days on the survey; analyse the information and write a preliminary report.

3. Hold a seminar on the preliminary research results during April 9-10, 1982, in Bangkok. (See Appendix B.)

4. Make a conclusion of research and submit the final report in July 1982.

Conclusion of Important Elements from the Research Results

1. Findings about general conditions

1.1 869,144 agricultural households in the 12 provinces could roughly be divided into 3 groups : 92,034 landless households (10.6%), 28,287 nearly-landless households (3.3%), and 39,354 landpoor households (4.5%).

1.2 As a whole, the size of agricultural households was smaller than that of ordinary households; the proportion being more females than males. 70% of the family leaders finished only Grade 4.

1.3 Employment was high during planting and harvesting seasons, it was especially high during the first planting. 50% of the income was spent on food, the rest was spent on clothes and medical care.

1.4 Public health services visited by the farmer consisted of drugstores, second-class hospitals and health centers. Their water resources included canals and shallow wells. They drank rain water and had problems with storage tank.

2. Major findings among the landless farmers

2.1 There was a tendency for the number of landless farmers to increase at a low rate. In general the landpoor's conditions were not much better than the landless farmers. The number of the landless farmers decreased as the number of employees increased.

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2.2 On average, per capita income as a whole of the landless farmers * was higher than that of the nearly-landless** and the landpoor *** farmers. More than 50% of the three groups had a per capita income not exceeding 10,000 Baht. The per capita income of 10% of each group was less than 3,000 Baht.

2.3 The asset of 37% of the landless households amounted to not more than 5,000 Baht, 77% of this group had less than 20,000 Baht assets.

2.4 More than 90% of the landless farmers had never been a member of any rural institutes. The number of farmers being a member of a rural institute increases as they owned more land. These institutes included farmer groups, co-operative groups, etc.

3. Recommendations

3.1 Village industry development, which could increase employment, still needed support from the government, especially in marketing and loans.

3.2 The model of an agency to be responsible for other occupational trainings should be studied.

3.3 An agency should be set up directly for the landless, the nearly-landless, and the landpoor farmers.

3.4 Needy population and population with less chances should be considered whenever an allocation of budget or other resources was made. Taxation structures needed to be readjusted to equally distribute the income.

Project No.3 "A study on Collection and Storage of Roof Runoff for Drinking Purpose"

Personnel/organization responsible : Dr. Chayatit Vadhanavikkit and the team, Faculty of Engineering, Khon Kaen University.

Project period : July 1981 - August 1984

Aim : To educate people in the Northeast rural areas to drink high-quality water.

Objectives 1. To develop knowledge relating to appropriate technology for rural areas in designing water tanks and in the maintenance of rain water collection system.

2. To prepare manuals on the construction of a storage tank and on the maintenance of a rain water collection system for people in general.

*	The landless farmers	=	farmers who are not holding, or renting land
**	The nearly-landless farmers	=	farmers who hold not more than 5 rais.
***	The landpoor farmers	=	farmers who hold more than 5 rais but not more than 10 rais.

Project site : 1. Ban Kraduang, Tambon Pa Manaw,
Ban Fang District, Khon Kaen
2. Ban Non Muang, Tambon Sila,
Muang District, Khon Kaen
3. Ban Nong Kang, Tambon Sila.
Muang District, Khon Kaen
4. Ban Sawattee, Tambon Sawattee
Muang District, Khon Kaen

Procedures:

The Project was divided into four sub-projects, namely:-

Sub-Project No 1 : Hydrologic Studies

This project aimed at studying these aspects:-

1. The relationships among rainwater, roof area, size of storage tank, household's demand of water and the most suitable size of tank.

2. The potentials and rain water in different areas, so as to approximate the amount of rainwater each month.

A computer-simulating model was used relying on the data of the past 10-year rainwater amount of 16 provinces in the Northeast which were analysed on a microcomputer.

Sub-project No.2 : Studies of Rainwater Quality

This project aimed at analysing the quality of rainwater in an open space, through (the atmosphere) roof, traditional tank, modern tank; and compare with physical, chemical, and biological standards:

Sub-project No.3 : Construction of Materials, Techniques and Operational Studies

This was the main project with the aims to construct 4 types of storage tank :(1) bamboo-reinforced concrete, (2) ferrocement, (3) brick, and (4) interlocking mortar block; and to compare these tanks with the traditional tank by conducting a primary study of storage tanks which were not made of cement.

Sub-Project No.4 "Socio-Economic Studies

This project had an aim to survey the conditions:-

1. before the construction of tanks to determine the economic and social variables in the village,

2, after the construction to state the changed variables.

Conclusion of Important Elements

Sub-Project No.1

1. Rain water was the best source of water for villagers to store for use.
2. The storage capacity for basic consumption was 5 litres/person/day.
3. For basic consumption, the amount of water in October was an important variable in the determination of tank's size.
4. The storage capacity for the total consumption was 20-25 litres/person/day. The area where the amount was less needed more roof areas.
5. The size of tanks varied with the roof area for total consumption, but not for basic consumption.

Sub-Project No.2

1. The water quality index for drinking water (WQID) indicated that rainwater was a good drinking water source, could be stored without contamination by enzymes, and was less acid.
2. Rain water from galvanized iron sheet had a high quality whereas rain water from asbestos cement had an average quality.
3. Rain water stored in a tank had a better quality than roof runoff, especially from February to May.
4. From WQID rain water in an open space was cleaner than roof runoff.
5. Rain water in a traditional tank had a high to very high quality. The quality rain water in mortar jars was not different from rain water in reinforced concrete and bamboo re-inforced tanks.
6. For modern types of tanks, rain water in brick tanks had the same quality as the water in ferrocement tanks.

Sub-project No.3

1. The construction cost of mortar jars was cheaper than other receptacles. It was therefore suitable for small-sized families. (not more than 6 people). The jar's capacity was 6-7 litres.
2. Rain water tanks were suitable in the case where a large amount of water was needed.
3. In Khon Kaen, the construction cost for interlock block was cheapest. The other 3 types required an equal cost.
4. It could not be judged which type was the best. The factors of costs of materials, technical knowledge, money, etc. should be considered.
5. The popular bamboo-reinforced concrete water tank could create a problem because bamboo could lessen the life of the tank.

Sub-Project No.4

1. The village where per capita income was high could construct its own tank by instalment payments. For poor villages, public tanks should be constructed instead.

2. The selection and acceptance of drinking water of the villagers were up to the personal's taste more than to the quality of water.

3. The villagers lacked knowledge concerning the spreading of diseases through drinking water. Thus, they did not pay attention to the quality of water.

4. The positive attitudes of the villagers towards instalment payments for a storage tank showed that water was scarce.

5. The types of tanks being constructed, with which an overflow pipe and management system were designed, needed different periods of time to be accepted. They accepted interlock mortar block quicker than other types.

6. The acceptance of the new types of tanks depended more on convenience than on health.

7. The younger people had a higher tendency to accept new type of resources than the aged group. The construction of public tanks had an influence on school children rather than adults.

Chapter 3

The Evaluation of Each Project's Impacts

Two aspects of the evaluation will be discussed in this chapter; the first is the methods of evaluation of each project, and the second is the impacts, including problems, observed facts, and recommendations.

Methods of Evaluation of Each Project

Similar aims of the impacts had been determined of the 3 projects namely:-

1. The aimed variables

- 1.1 The efficiency of the project towards solution of basic problems.

- 1.1.1 Utilization of findings at a policy and a practical levels.

- 1.1.2 Quality of general implementation, after putting the findings into practice.

- 1.2 Unintended outcomes of the research project.

- 1.2.1 On the research unit

- 1.2.2 On the departments concerned

- 1.2.3 On other departments or organizations.

- 1.3 Obstacles hindering expected impacts

- 1.4 Methods to increase expected impacts

2. Resources of information

The resources of information will be presented separately for each project.

- 2.1 The project "Research for the Development of Provincial Education Planning" (RDPEP) collected data from

- 2.1.1 Studying relevant papers and documents

- 2.1.2 Observing field work in 5 experimented provinces, studying additional practices in 2 other provinces; and sending out questionnaires to study working conditions in the first 5 provinces and other 4 provinces.

- 2.1.3 Interviewing relevant personnel :-

- the researchers
- the project supervisors
- the administrative personnel at the Office of Permanent Secretary, Ministry of Education
- the Governor and major provincial committees related to education.
- the working committee of the provincial education planning of

each province.

2.2 The Project "Land Distribution and Employment" (LDAE)

Three methods were used in the collection of data :-

2.2.1. Studying relevant documents.

2.2.2 Collecting field data by observation and interviews.

2.2.3 Interviewing all relevant personnel.

- the researchers and information collectors
- high administrative personnel
- land reform officers, village headmen, population in project site of 5 provinces.

2.3 The Project " A study on Collection and Storage of Roof Runoff for Drinking Purposes " (SCSRDP)

2.3.1 Studying relevant documents.

2.3.2 Observing water consumption conditions, use of tanks and ways of living of the villagers in the project site.

2.3.3 Interviewing the following people:-

- the researchers
- the director of the Integrated Village Development Center, Mahasarakham.

The Impacts of Each Project

The impacts consisted of direct, indirect, and possible impacts which will be presented separately for each project.

Impacts of Project No 1
Research for the Development of Provincial
Educational Planning (RDPEP)

Direct Impacts

1. The application of recommendations and conclusions of the research in the setting up of a policy in National Education Plan Phase 6 (1987-1991).

The recommendations, findings, and observed facts of the project have been applied in setting up the policy in the NEP Phase 6 in many ways. For instance, the basic information and thoughts of the project have played a part in continuing education planning; the Ministry of Education has realized and participated in the project's activities from the start.

The research findings, both from basic investigation stage and experimental stage, have all confirmed the importance of the policy in the education plan-phase 6, which emphasizes staff development in planning. They also played a part in setting up a plan to develop an information system.

2. The application of the findings or planning model in practical procedures.

The Ministry of Education has seen the importance of the synthesized planning model and has divided implementation into 2 stages:-

Stage 1 was the experimental stage which has laid an important foundation for provincial level education planning in the future, so that the planning will be based on the same system all over the country.

Stage 2 included an organization of conference in order to determine provincial education planning approaches. The participants, who were experienced in planning, produced 2 manuals namely: (1) a manual on education, religion, and art and culture planning at a provincial level, Phase 6 (1987-1991); (2) a manual on education, religion, and art and culture planning at a provincial level, 1987, (See Document No.12 and 13 in the References) the purpose of these manuals was to make provincial education planning in agreement for the whole country.

Moreover, a certain project has been initiated to be responsible for the continuing education planning:- the project on development of education planning and administration system¹ which is responsible for organizing seminars and trainings on planning. Twelve training courses have been held, with 1,412 trainees. Seven seminars have been arranged with 1,325 participants altogether. The Office of the National Education Committee, the Ministry of Education, is still promoting continuing implementation of education planning by

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1. Project "Loan Money from the World Bank for the Sixth Education Development"

following up the results of seminars (Reference No.5), or holding a seminar on methods of education, religion, art and culture planning, or by studying problems and obstacles to the planning of education development at provincial level. (Reference No.11)

Practically, all provinces have followed the plans set up by the central department, relying on the manuals produced. This implementation has created a five-year education development plan, and an annual work plan for all provinces.

For the quality of the plan, it was found that the education plan of each province was more flexible and viable. It was also found from the questionnaire and from the interviews with personnel concerned² that:-

2.1 The sampled informants had agreeable opinions towards the probability and ease of implementation of the plan which was better than those before the academic year 1985.

2.2 The informants believed that the project yielded very good results toward education development.

2.3 The project still lacked effectiveness in supervision of the plan. More than 50% of the trainees averagely or scarcely applied the knowledge from the trainings.

Indirect Impacts

1. The research unit responsible for this project has used the data from the survey as a basis for its continuing implementation of development project. This is the project on development of education planning and administration system which consists of three small projects: the project on staff development and development of the structure of education planning system, the project on the change of the office of regional education officer into a technical center, and the project on education and future project planning.

2. The impact on the development of resource personnel

It was found that the project has made the personnel learn to work, think, and plan together, and use provincial resources together. That is to say, the project has made the personnel realize the importance of cooperative planning, which, in its turn, increases knowledge for the personnel.

2 Sampled informants included relevant personnel in education planning from the 5 experimented provinces, and 5 other provinces, totalling 110 persons.

3. The extension or the point of view towards planning

In addition to the above, there has been an extension of the point of view and knowledge from the working group to other educational departments/agencies. This has been achieved through their being a speaker in a seminar on planning¹ or, in the case where the personnel are a teacher, through their teaching of subjects on education planning².

Possible Impacts

The integrated planning model proposed in this project should result in extending the idea into the new structure of the Office of Permanent Secretary which emphasizes the distribution of educational authority. The regional education will be functioning as a technical center controlling the regional education plan. Thus, if the province is well-prepared, the work of the regional education will be even more efficient.

Problems and Recommendations from the Evaluation of Project No.1

Problems Encountered

1. The permanent work load of the planning team was the major obstacle towards their ability to participate in the provincial planning.

2. The absence from their permanent job to participate in the planning created a misunderstanding among the colleagues. In addition, their administrators did not see the importance of their role in the provincial planning team.

3. There was a problem of lack of budget to support these activities.

4. Frustration occurred among the working group concerning the working conditions--they realized that the Ministry of Education did not really recognize their work.

5. The screening of the plans was not efficiently done. The provincial Sub-Committee in education paid little attention to this work.

6. There was a lack of follow up work.

7. There was no budget for this type of work which had no affiliation.

8. There was a time constraint. The central department took a long time to authorize policy and plan, delaying the provincial education planning procedures.

9. The change of personnel influenced the planning system. The new comer would take some time to be equally experienced.

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1. See example of the seminar plan "The Planning of Secondary Education Development, Pitsanulok" in Appendix D

2. From interview.

10. There was a lack of an efficient information

10. There was a lack of an efficient information system, eg., incomplete information etc.

In order that the provincial education planning is going on efficiently, the following matters should be considered by personnel concerned:

1. Every educational department in a province should set up its own planning team. If the person is from another department, his/her duty in the planning team should be recognized.

2. The Ministry of Education should allocate budget for the planning of provincial education development so that the activities will be efficient.

3. The ultimate concept of provincial education planning should be channeled into the same direction, especially in the long-term planning, which, in turn, will control the direction of the annual work plan and development plan. This will create a positive attitude towards the planning.

4. The supervision of follow-up work is necessary. Activities should be arranged to promote knowledge in this respect to the provincial planning teamwork. Such activities could be arranged by the central part, at regular intervals.

5. In order to solve the problems of the change of personnel, trainings should regularly be arranged for all planning personnel. The new comers should be trained before starting the work.

6. To streamline the work, the central part should establish implementation plan or schedule for the planning activities. The schedule set up at provincial level should be in agreement with this. Every department concerned should also update its own information system and base its planning partly on current information. Hence, it can proceed independently of the central part.

Impacts of Project No.2
Land Distribution And Employment (LDAE)

Direct Impacts

1. The application of findings as basic information for setting up a policy

The Office of National Economic and Social Development Committee relies on basic information in different areas and aspects in their establishment of various policies. The information from LDAE Project has also been proposed to the Committee for their subsequent consideration. In addition, it is evident that the National Economic and Social Development Plan should include the information from this project since a seminar has been arranged on land distribution for the landless farmers with an aim to recommend certain notions in the designing of the national economic and social development plan. In the national economic and social development plan, Phase 5; there was a policy to speed up land distribution by land reform and land holding for agriculture in order to create work for farmers, and to promote social equality, which will result in agricultural production. Then in Phase 6, the policy was to continue from Phase 5 in the project of land reform for tenants and landless farmers to hold their own land. It could be said, then, that the information from this project are relevant and useful for the setting up of policy in the National Economic and Social Development Plan.

2. The application of research methods and equipment

The Agricultural Land Reform Office has continuously conducted a survey on the landless conditions of farmers in different provinces of Thailand after the commencement of this project in 1979. The methods, model, and equipment from the project have been used in this survey, with an assistance from Asian Regional Team for Employment Promotion, 1981. After this, the work has been supported by the Government. It can be concluded that this project is the initiator of such survey.

3. The application of findings in the preparation and decision making of relevant departments

The primary stage of land reform for agriculture involves preparation. This includes the collection and analysis of economic and social data. The information from this project is very useful in this respect. The Technical and Planning Division, The Agricultural Land Reform Office also used the information in its stipulation of land reform area, making this stipulation become appropriate.

4. The findings yielded direct impacts on the policy, roles, duties and operation of the Agricultural Land Reform Office.

According to the criteria in area selection for

land reform, in the act of legislation on land reform for agriculture 1975; "in the area to be selected, there are a lot of landless farmers, small land holders, or tenants of other people's land; the products per rai are also low." It can be seen that this project was in agreement with the policy, resulting in the efficiency of implementation according to the criteria. Moreover, the project was part of the duties of the Agricultural Land Reform Office to survey and compile statistics and data concerning the conditions of land holding and different agricultural practices. Even though the survey was conducted only among the landless farmers in some provinces, the project could be said to have direct impacts on the policy and duties of the Agricultural Land Reform Office. Therefore, the support from an overseas agency or the government is a very important impact of the project.

Indirect Impacts

1. Impacts from technical aspect.

It was found from the data collection that the information of this project was used by many technical experts as a point of view towards the production of technical work, eg., a dissertation for a master's degree in economics by Witayakorn Chiangkoon.

2. The application of information as a basis for implementation of work.

The Agricultural Land Reform Office had carried out a project work on the development of small-scale agricultural holders in the land reform area from 1982-1987. This project, supported by UNDP and FAO, relied on the information from this research as a basis for its implementation eg., the data on the income of small land holders, the data on the loaning of money by the farmers. It can thus be concluded that the project has an impact on the implementation of the Agricultural Land Reform Office.

3. The recommendations from the project can be used as criteria in the evaluation of working policies of relevant departments/organizations.

The recommendations from the project can be used as criteria in the evaluation of working policies of the Agricultural Land Reform Office. This is because some information is in agreement with the working directions of the office, eg., the decrease of land in the allotment, emphasizing more on the use of production technology which is more efficient; the addition of income for needy agricultural holders. All these truly support the working policy of the office.

4. The project has promoted research capacity for officers and personnel from relevant departments/organization.

It was found that the officers from the Agricultural Land Reform Office who participated in this project became more efficient in their work. It could be

said that the project has yielded an important impact on the work of the Agricultural Land Reform Office.

5. The project partly encouraged relevant departments/organizations to realize the importance of the basis of agricultural information.

A committee under the office of the Prime Minister has coordinated with the National Statistics Bureau in surveying and processing information about landless farmers in order to produce an agricultural census. This action has led the National Statistics Bureau to realize the importance of this information and since then has added it as part of the agricultural census.

Possible Impacts

1. The Agricultural Land Reform Office intends to adjust the information on the landless conditions of farmers of every province so that the information are based on the same year (1987). This adjustment, when completed, will be useful for all departments concerned; the accurate information can be used in planning, policy making and extensive implementation of related work. In this respect, a long-term impact could arise from this project.

2. Since the information obtained from this project are general and are quantitative, the utilization still cannot yield ultimate results. The Agricultural Land Reform Office therefore holds an idea to make a continuing study for an in-depth information, especially quantitative information which are in details and will be useful for the work of relevant departments. A sample will be made for a small number of villages to conduct an in-depth research. It is expected that an assistance will be given by Mr. E.C. Champman from Australian National University, in research methods. The information of this research is expected to be useful for the land Reform Office, resulting partly in an important long-term impact.

Observed Facts and Recommendations from the Evaluation

1. The land allotted to the farmers by the Government is generally the land out of which the owner cannot make any profit or is of low-quality. Therefore, land utilization cannot be achieved even though the Government is supporting in terms of introduction to integrated agriculture and appropriate technology. One of the facts is that the farmers lack a revolving fund, and are not ready to accept such assistance. The impacts are thus less than expected. One way to solve this problem is that the Government gives support on production technology on a large area instead of supporting any individual. By this means, a collection of equipment and materials of good quality can be made, and the Government can support in terms of a bigger amount of revolving fund.

2. Besides the above, the Government can organize

a working system in the allotted land through the cooperation between the government and the farmers. The Government can invest and give support in production technology and marketing while the agricultural holders are the labours. The profits of the products can then be given to the farmers at an appropriate proportion. When the quality of land is improved and the holders are able, the Government can stop the support, leaving them to manage their own land.

3. If the monetary support and appropriate technology have successfully been implemented, the allotted land can be smaller in order to be able to distribute the land to more farmers.

4. Because of the laws concerning land reform, the government is unable to obtain better-quality land. Adjustment of this law should be considered.

5. The results of this research project are not widely disseminated. Dissemination of the results of this research, and of the continuing research should be conducted on a larger scale so as to yield more benefits.

6. The farmers in land reform area want to hold their own land in order that they have a firm foundation for their families. An in-depth research should be conducted to determine a model for social security suitable for the landless farmers.

7. The research results still lack certain in-depth information, especially about the characteristics of each group of the landless farmers, about their problems and obstacles. A continuing research should also be conducted to find such information, yielding more impacts out of this research.

8. The Government should initiate a project to underlie and support the landless farmers so that their income would increase, making a firm foundation for their living. Appropriate directions of this underlying project should be studied before any initiation.

9. From this evaluation, it was found that some of the landless farmers cannot improve their living even though land is allotted to them. The reasons could be because they lost profits from their enlarged farming, making it necessary for them to make a loan. Finally, they would become landless once more. Thus, an urgent need is to find some measures to help these farmers. This shows a negative impact from land distribution.

10. Another observation is that other farmers in land reform areas have to donate a portion of their land for the reform. This also reduced their income, making them unable to pay their previous debts. These farmers become less happy and have a mental problem due to the change of status. This problem should also be solved in order that the land reform policy will be completely successful.

Impacts of Project No.3
A Study on Collection and Storage of Roof Runoff for
Drinking Purposes (SCSRRDP)

Direct Impacts

1. The findings of the research were used in producing a manual on rainwater tank construction.

The manual on rainwater tank construction was produced according to the second objective of the project, "to prepare a manual." the first publication of 1,000 volumes in August 1984 resulted in tremendous interests from different organizations and individuals and had to be published again in January 1987. This means that the project had greatly succeeded because there was a very wide dissemination of results, creating a very important impact.

2. The research results were used as topics in regional seminars and workshops.

Preliminary results were used as a topic in a regional seminar and workshop on: "Rainwater Catchment-Status and Research Priorities in the Southeast Asian Region, "from November 29-December 3, 1983 at Khon Kaen. This seminar disseminated the research results widely. The participants could apply the results in their communities, and the manual to construct rain water tank was also distributed. Another international conference was conducted during January 14-16, 1986 making a very important impact on a wider scale.

3. Different organizations used the manual on rainwater tank construction as a model for their construction of tanks in the community where water was scarce.

From the dissemination of the manual, many organizations, especially private and overseas organizations concerning poor community assistance, used the manual to construct rainwater tanks for population in community where water was scarce. These organizations were: The Foster Parents Plan International and Population and Community Development Association.

3.1 The Foster Parents Plan International constructed public tanks by donating money while the local people contributed technical methods and some materials.

3.2 Population and Community Development Association (PDA) appointed one project researcher (Dr. Chayatit Vadhanavikkit) as an adviser on the techniques of rainwater tank construction following the model in the manual to replace the former bamboo-reinforced tank the association usually constructed. The association have built about 241 tanks since 1985 and will build about 100 more 1985.

Indirect Impacts

1. The research results encouraged relevant technical papers.

The research results have encouraged the production of various technical papers both in Thai and in English. This was because the researchers were invited to present papers on rain water catchment and the construction of the tank by organizations in the country and overseas. Until 1985, there was a collection of 14 English papers and 9 Thai papers, which are very useful for many interested people. (See papers in appendix D.)

2. The research project played a part in increasing the new researchers' experiences who could apply the results in their teaching.

One indirect impact of this project was the increase of experiences among the new researchers, thus, extending the technical aspects of the research on a wider scale. The research results have created general advancement in technical aspects as well as benefits for the society, and education.

indigenous improvement

3. The research project was an important basis for researchers' concept in conducting a related or extension project.

The success of this project contributed to the origin of other related projects, which have also been conducted by the researchers from this project. They are, for example, the project "Long-term Behaviour of Bamboo Reinforced Concrete", supported by CIDA; the project "Village Level Water Storage and Utilization Practices in Northeast Thailand", supported also by CIDA and already completed in 1985; and the project "Water Contamination" which is an extension of this project and is being funded by IDRC. It can be seen that the project has many indirect impacts.

4. Observed facts from the research led to the construction of the new type of tank developed by the researchers.

It was found by the project that bamboo-reinforced tanks could create a long-term problems, eg., they could explode after a period of use. This finding was disseminated and there has been no construction of bamboo-reinforced tanks thereafter. Moreover, the PDA has used the project's interlocking mortar block in the construction of tanks in areas where water is scarce.

5. The application of the research results as a model to construct rainwater tanks has an important impact on people's health.

The construction of rainwater tanks in areas where water is scarce results in good health and hygiene of community people.

Possible Impacts

1. Birth control notion could be interfered because one criteria used in selecting a site to install

the tank by the Foster Parents' Plan International was to select a big family with a lot of children. The villagers might ignore the birth control plan because they want to have a tank constructed in their houses.

2. Confrontation might occur among villagers. The owner of the house having the tank might limit the others to use the water during the dry season.

3. Traditionnally, a water well is the place where people especially young boys and girls meet. The construction of the tank in one house will prevent these meetings and could affect further cooperation among villagers. There should be some means to develop other activities to prevent this from happening.

Recommendations

1. A study should be conducted to develop management system for the use of rainwater tanks, especially the public ones; so as to prevent the villagers to become disunited. A good management system would create cooperation, order, responsibilities, etc. among the people.

2. In order that people in the community can restore their culture, projects should be initiated emphasizing people's cooperations.

3. Because of the convenience in the consumption of water from the tank, people will have more free time, which, if not properly-controlled, may cause other problems. Additional projects should be conducted to create work among the people.

4. Since the construction of tanks following the manual requires a lot of money, only rich people are able to construct the tank in their houses. A research study should be carried out to find cheap and locally-available materials.

Chapter 4

Conclusion of Major Impacts of Research Project in Social Sciences

The findings from the evaluation can be divided into 2 parts: the conclusions of the major impacts and the observed facts, problems, and recommendations.

Conclusions of Major Impacts

The following overall conclusions of major impacts were drawn from the three projects:

1. A research project in general is a pilot project, having an impact on relevant departments or organizations in being a model, or giving basic information towards their research or education plan.

The three research projects were not an exception. They were a research into development aiming at finding out basic information for the development of various dimensions. Therefore, they created the following direct impacts:-

1.1 The research models have been applied all over the country.

The application of the model of each research project included duplication of the models or adaptation for specific problems. The model of the project on "Research for the Development of Provincial Education Planning" was used by the Ministry of Education to set up a policy for each province in education planning. The personnel who participated in this project were assigned to produce two manuals for education planning. (References.No.12,13) The methods in the manuals would be used as a basis in education planning. The important impact was the initiation of provincial development plan, both long-termed and annually.

The Agricultural Land Reform Office made an extension survey form the project "Land Distribution and Employment", adjusting the questionnaire used in the project to collect information. The information was at first collected by the project from only 12 provinces. The survey conducted by the Land Reform Office has extended widely nearly covering every province in the country. The Office has received a monetary support from the Asian Regional Team for Employment Promotion (ARTEP) and was also allocated an amount of budget from the Government.

1.2 The information from the research was used in decision making.

The research information, findings, and recommendations all contain beneficial elements for the decision making and planning of projects on different aspects of country development. The project "Research for the Development of Provincial Educational Planning", for example, has surveyed basic information for education

planning and experimented on the planning model; visualizing problems of information system and responsible personnel. These findings become important conditions supporting some continuing projects in Phase 6 of the Education Development Plan, for example, the project on the development of information system, the project on development of planning personnel. The information from the project "Land Distribution and Employment" and from the extending survey were used as basic information for the Office of Land Reform to set up some relevant policies, for example, the stipulation of land reform area for agriculture.

1.3 The research results encourages the administrators to develop working systems.

One stage of the three projects involved the organization of seminars on the results of the survey. This technique had an impact both at the administrative and practical levels.

1.3.1 At the administrative level, a seminar should contribute in provoking administrators' points of view making them become interested in such problem. The project "Research for Development of Provincial Educational Planning" should have stimulated some opinions towards a policy, influencing the setting up of policy in Phase 6 of Education Development Plan. The project "Land Distribution and Employment" should have stimulated a policy for the landless. The last project "A study on Collection and Storage of Roof Runoff for Drinking Purposes" found that the findings and observed facts from the project partly encouraged relevant organizations to realize the problems of bamboo-reinforced tanks.

1.3.2 At practical level, the projects were found to have an impact on the promotion of working efficiency. The project "Research for the Development of Provincial Education Planning" stimulated cooperation in planning, opinions towards planning and use of common resources. These actions created a planning team with clearly-defined objectives, and a 5-year provincial education development plan, which is a new dimension of provincial education planning.

2. The research projects contributed in the increase of research capacity for personnel in the research units and related organizations.

This type of impact is indirect and can be concluded below:

2.1 The research project resulted in potential development of personnel and implementers.

In the project "Research for the Development of Provincial Educational Planning", the potential of provincial planners were developed partly as a result of this project. These personnel had participated in the experiment carried out, obtaining both knowledge and

skills for planning. In the project "Land Distribution and Employment", the survey of landless conditions required a lot of personnel from different organizations to work as information collectors. These personnel became experienced in this type of work and their research potentials were also increased, possibly apparent in their next research work.

2.2 The research project had an impact on the promotion of information systems of the research units and other related organizations. In the project "Research for the Development of Provincial Educational Planning", the implementers had carried out primarily, the 'relevant' information, and some of the information were not used. However, such collection of information would originate important data bases and would have an impact on a later efficient data processing. The basic information from the project on land distribution was found to be very useful for organization planning. It was also found from the project on the development of provincial education planning that the experiment on planning model made the personnel in the experimented provinces become well-prepared and efficient.

3. The research projects were important bases initiating new concepts for researchers to conduct other relevant research.

One important impact from social sciences research projects was that the research findings were the original stage for the researchers to develop their ideas in other relevant or extending projects. The project "A Study on Collection and Storage of Roof Runoff for Drinking Purposes", for example, has initiated extending and relevant projects namely: (1) Long-term Behaviours of Bamboo Reinforced Concrete ", (2) "Village Level Water Storage and Utilization Practices in Northeast Thailand" both being funded by CIDA; and (3) "Water Contamination", funded by IDRC.

Observed Facts, Problems and Recommendations

This evaluation brought about the following facts, problems, and recommendations:-

1. Facts observed from the evaluation.

From the follow up of work to study the impacts of the three projects, the following points have been observed :-

1.1. The cooperative roles of the research unit and implementation unit created a good impact.

In the project "Research for the Development of Provincial Educational Planning," the implementation unit which was the Office of Permanent Secretary of the Ministry of Education had to take responsibilities with the main research unit, in this case the Office of the

National Education Committee. This resulted in a "build-in" project, making the Office of Permanent Secretary utilize the research results in the future.

1.2. The roles of the personnel in charge and those who had contributed became important factors in utilizing the results.

It was found from the project "Land Distribution and Employment" the researchers of which included high-level administrators from the Agricultural Land Reform Office, that the concepts and findings were applicable and there was a chance to implement the idea all over the country.

The researchers of the "Study on Collection and Storage of Roof Runoff for Drinking Purposes" and the users of the results (PDA) were continuously interested in the ideas. This has had an impact on efficient application of model, methods and findings. In the project "Research for the Development of Provincial Educational Planning"; if in any province the education planners consisted of personnel who had continuing experiences in planning, the planning of that province proved satisfactory. On the other hand, in a province where the planners lacked continuing experiences, the planning would prove inefficient, for example in Rayong where there was a change of the administrative personnel.

*Continuity
needed*

1.3. The public relations of the research results and coordination with other departments.

It should be noted that the research results were not widespread. In the case of the project on land distribution, the land reform officer of some provinces still did not realize that the office of Land Reform had collected information in this respect. Thus, in land allotment, new information were surveyed without relying on the information available at the central Office. In the project "Research on the Development of Provincial Educational Planning", it was found from the interviews that some provincial educators were not informed of the results of this research, showing that dissemination of research results were not conducted on a large scale.

For the integration of benefits before and after the research, it was found that this had not been adequately achieved.

In "Land Distribution and Employment", it was found that the findings should be of use for many sectors and departments, eg., Department of Community Development, Department of Land development, etc. However, there was no coordination with these departments during the planning for data collection; otherwise, the findings would create impacts on a larger scale.

2. Problems towards inadequate impacts on the country development

There have been some problems and obstacles which prevented the impacts from contributing to the development

of the country. They were :

2.1 The structure of departments/organizations.

The model for provincial education planning could not sufficiently be used in the Ministry of Education because departments and divisions were independent of each other, not conforming to the proposed model. If the departments were affiliated to another sector, the findings or research results were difficult to be applied.

2.2 Problems concerning readiness, knowledge and techniques of the users of research results.

Although the research results were very useful, they were not adequately used. In "Land Distribution and Employment", it was necessary to apply modern technology to improve the quality of land. However, farmers in the land reform area were not ready for such technology; they still lacked knowledge and money to develop the land into a highly productive land holding.

2.3 Problems concerning budget or investment.

A model for construction of a suitable rainwater tank was an outcome of the third project. Practically, however, the model is not widely used. This can be because there is no budget. Only private agencies such as PDA used the research results. For the first project, the Ministry of Education cannot allocate budget for provincial education planning, making many departments believe that education planning is not essential.

2.4 Problems concerning some environmental conditions.

These are conditions of draught, no rain, making the tanks from the third project not as useful as expected.

3. Recommendations

The evaluation team would like to propose the following recommendations to responsible departments and sectors concerned in order that the impacts of research on social sciences are genuinely useful for development.

3.1 The departments responsible for the research projects.

The future departments or organizations responsible for research projects on social sciences should emphasize continuing or in-depth research which can indicate the relationships and extensions of problems from other projects. The following aspects should also be considered:

3.1.1 A survey study on social sciences to be implemented should be considered in details to see whether the information to be collected relate to or are useful for other departments. If it is so, coordination should

be established before the research so as to save time and budget and also avoid duplication of work.

3.1.2 Coordination or request for cooperation in collecting information should be explicit so that every section has common understandings towards the purposes, objectives, and steps in implementation and future aims. This is to create benefits from genuine cooperation and prevent unexpected impacts.

3.1.3 In research planning, follow-up work of impacts in the long run should be taken into account. A plan should be made towards enhancement of wanted impacts.

3.1.4 During the implementation stage, especially in the field work, factors concerning the responsible persons, the continuation of ideas and management should be taken into account. Considerations should also be made concerning the change of official positions. If this factor is out of control, then coordination should be made so that information and news are continuous.

3.2 Cooperation between IDRC and the Royal Thai Government

3.2.1 Continuing and in-depth research should be emphasized and supported in order that the impacts of the former research projects which were completed will be utilized to their fullest extent.

3.2.2 A central organization should be established to coordinate work of different projects, resulting in fullest impacts towards the country development. This organization will have a duty to control, supervise, and follow up work and provide opportunities for research units being already granted to propose a clear approach towards the extension of their research.

3.2.3 The cooperation between the research implementation unit and the users of the results should be promoted. The cooperation will more efficiently lead the results to practice. In the case where the users are the implementation units, and the results of research are already the duty of that unit, they should be specially considered. However, the research potentials of the departments or units should be taken into account. Finally, if any research unit needs to be granted a research scholarship, but the unit lacks skillful researchers, an opportunity should be provided for such unit to invite researchers from other organizations/departments to participate.

3.2.4 For efficiency in application of research results and to prevent duplication of work, the Thai Government should support in terms of information system. In addition, the analysis of research result papers in the the past will be useful for the promotion of impacts, economizing the budget.

3.2.5 A criterion should be set for every

authorization of research project in order to incorporate the utilization of its results so as to produce intended impacts.

References

For the Project "Research for the Development of
Provincial Educational Planning

1. National Education Committee, Office. Education Newsletter."
No.1 (October-November 1986): pp.1-2.
2. -----. Education Report of Specific Case Research
into Provincial Educational Planning Development:
3. -----. Education Report of Specific Case Research
into Provincial Education Planning Development:
Pitsanulok, 1982.
4. -----. Education Report of Specific Case Research
into Provincial Education Planning Development:
Buriram, 1983.
5. -----. Report on Follow-up of Training Integrated
Planning of Education Religion, Art and Culture
Development Provincial Level. MPP.
6. -----. Report on Conclusion of Experimentation on
Provincial Education Planning Development. 1985
7. -----. Report of Research Results Research into
Provincial Education Planning Development, MPP.
8. Mukdaharn, Province. Education, Religion, Art and
Culture Development Plan Phase 6 (1987-1991),
1985.
9. Rayong, Province. Education, Religion, Art and Culture
Development Plan, 1986.
10. Education, Ministry and Office of the National
Education Planning, 1986, Lampang, 1985
11. Education, Ministry and Office of the National
Education Committee Seminar on Integrated
Development Planning Methods on education,
Religion, Art and Culture Bangkok: Office of the
National Education Committee, 1987.
(Mimeographed)
12. Manual on Provincial Development Planning on
Education, Religion, Art and Culture Phase 6
(1987-1991), 1985.
13. -----. Manual on Provincial Development Planning
on Education, Religion, Art and Culture 1987, 1985.

14. Ubonrajthani, Province. Education, Religion, Art and Culture Development Plan, 1987, 1985.
15. Bhumirat, Chinapat. Research for the Development of Provincial Educational Planning : Final Report. Office of the National Education Commission, Thailand., 1985.

References

For the Project "Land Distribution and Employment"

16. Agricultural Land Reform, Office. Statistical Table on Landless Conditions in Some Provinces in Thailand, 1979. Division of Technical Matters and Planning, Agricultural Land Reform Office, Ministry of Agriculture and Co-operative, Bangkok: 1981. (Mimeographed.)
- 17.------. Proceedings of Seminar on Land Distribution and Landless Problems. Division of Technical Matters and Planning, Agricultural Land Reform Office, Ministry of Agriculture and Co-operative, Bangkok: 1981. (Mimeographed.)
- 18.------. "Explanations for Filling the Questionnaire, Research Project on Land Distribution and Employment in Rural Areas. Division of Technical Matters and Planning, Agricultural Land Reform Office, Ministry of Agriculture and Co-operative, Bangkok: 1981. (Mimeographed.)
19. -----. Questions and Answers, Land Reform for Agriculture. Rungsilapa Publisher Company (1977) Ltd., Bangkok: 1984.
- 20.------. Documents re Statistics of Landlessness of Farmers in Some Provinces in the Lower Northern and Some Parts of the Central Thailand 1985. Division of Technical Matters and Planning, Agricultural Land Reform Office, Ministry of Agriculture and Co-operative, Bangkok: 1984.
- 21.------. Documents re Statistics of Landlessness of Farmers in Provinces in the Upper North. Division of Technical Matters and Planning, Agricultural Land Reform Office, Ministry of Agriculture and Co-operative, Bangkok: 1984. (Mimeographed.)
22. -----. Manual on Survey Work, Landlessness Project.
- 23.------. Documents re Statistics of Landlessness of Farmers in the Northeast and Some Parts of the Central Region 1983.
24. Porn Tanvanit. Problems of Small Agricultural Holders Survey. Division of Technical Matters and Planning, Agricultural Land Reform Office, Ministry of Agriculture and Co-operative, Bangkok: 1985. (Mimeographed)

25. Sutthiporn Weerapan. Project on Development of Small Agricultural Holders in Land Reform area, Agricultural Land Reform Office, Ministry of Agriculture and Co-operative, Bangkok: 1987. (Mineographed.).
26. Agricultural Land Reform Office. Landlessness in North-Eastern thailand, Supplementary Survey. Division of Research and Planning, Agricultural Land Reform Office, Ministry of Agricultural and Cooperatives, Bangkok: 1986.
27. Asian Employment Programme, and Agricultural Land Reform Office. Landlessness in Upper Northern Thailand. Asian Regional Team for Employment Promotion (ARTEP). Bangkok 1983.
28. Chirapanda, S. Landlessness in Western Thailand. Bangkok: Agricultural Land Reform Office, 1984.
29. Chriapanda, Suthiporn and Tamrongtanyalak, Worwate Landlessness in Central Thailand.
30. National Institute of Development Administration. Report on Mid-Term Evaluation of the Land Reform Areas project. The NIDA Consulting Center, National Institute of development Administration Bangkok : 1986.

References

For the Project "A Study on Collection and Storage of Roof Runoff for Drinking Purposes

31. Chayatit Vadhanavikkit. Manual for Construction of Ferrocement Rainwater Tanks. Faculty of Engineering, Khon Kaen University, Khon Kaen: 1984.
32. Chayatit Vadhanavikkit and Yingsak Pannachet. Manual for Construction of ferrocement Rainwater Tanks. Faculty of Engineering, Khon Kaen University, Khon Kaen: 1987.
33. Sethaputra, Chariya and Others. Village Level Water Storage and Utilization Practices in Northeast Thailand: A Survey and Project Evaluation. Khon Kaen University, Thailand. 1985.
34. Sethaputra, Chariya. Collection and Storage of Roof Runoff for Drinking Purposes : Volume 4 Socio-Economic Studies. Khon Kaen University, Thailand. 1984.
36. Nopmongcol, pradit and Patamatamkul, Sanguan. Collection and Storage of Roof Runoff for Drinking Purposes: Volume 1 Hydrologic Studies. Khon Kaen University, Thailand. 1984.
37. Bunyaratpan. Vanasri and Sinsupan, Suparerk. Collection and Storage of Roof for Drinking Purposes: Volume 2 Studies of Rainwater Quality. Khon Kaen University, Thailand. 1984.

Appendix
Appendix A
List of Interviewees

The Project "Research for the Development of Provincial Educational Planning"

Rayong

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|----------------------------|---|
| 1. Mr. Suparp Ponsanong | Provincial Education Officer |
| 2. Mr. Wirat Narin | Director of Primary Education |
| 3. Mr. Amnat Maneesang | Head of Development Planning |
| 4. Mr. Pitchaya Chartsuwan | Head of Supervision Section |
| 5. Mr. Boonsong Saranyut | Head of Supervision Unit |
| 6. Mr. Uthai Sumipan | Academician, Office of
Provincial Education Office |

Buriram

- | | |
|------------------------------|---|
| 1. Mr. Pron Udompong | Governor |
| 2. Mr. Tananchai Pokpong | Provincial Education Officer |
| 3. Mr. Nipon Kaewsuttha | Deputy Provincial Education
Officer |
| 4. Mr. Anan Tiawtoy | Head of Planning and Techni-
cal Section, Office of
Provincial Education Office |
| 5. Mrs. Rawiwan Songsiwilai | Teacher, Non-formal Education
Center |
| 6. Mr. Wutthiporn Wittayadet | Teacher, Assisting in the
Committee of Common
Education |

Naratiwas

- | | |
|----------------------------|---|
| 1. Mr. Sa-nguan Srisuk | Academician, Office of
Provincial Education Officer |
| 2. Miss Penporn Hembubpa | Teacher, Assisting in the
Office of Provincial
Education Office |
| 3. Mr. Boonmee Mansakul | Teacher, Agricultural College |
| 4. Mr. Sunan Petmanee | Teacher, Technical College |
| 5. Mr. Sa-ngad Sngabankote | Assistant Director, Non-
Formal Education Center |
| 6. Mr. Somboon Kongrit | Teacher, Head of Planning and
Non-formal Education Project |

Pitsanulok

- | | |
|-------------------------|---|
| 1. Mr. Boonruang Manyam | Provincial Education Officer |
| 2. Mr. Jarat Sattayarak | Director of Primary
Education |
| 3. Mr. Sutan Aroontong | Assistant of Provincial
Education Officer |
| 4. Mr. Weera Muangchang | Teacher, Assisting in the
Office of the Provincial |

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|--------------------------------|---|
| 5. Mr. Cha-ngon Tangdee | Education Officer
Supervisor, Office of Primary
Education |
| 6. Mr. Prayong Taipitjit | Assistant Director, Technical
College |
| 7. Mr. Kasarn Kraisornsin | Teacher, Head of Education
Planning and Budget,
Teacher's College |
| 8. Miss Orn-anong Ingkasuwanit | Teacher Piboonsongkhram
Teacher's College |
| 9. Mr. Sawai Kaewket | Head of Planning
Office of Common
Education |
| 10. Mrs. Kranrat Jittrong | Head of Planning, Ja nok
rong School |

Songkhla

- | | |
|-----------------------------|--|
| 1. Mr. Kasem Apichartwiwat | Office of Provincial
Education Officer |
| 2. Mr. Sathian Maneerote | Academician
Office of Provincial
Education Officer |
| 3. Mr. Sawat Kaewsomboon | District Education Officer,
Natawee District |
| 4. Mr. Suwapan Soontornwong | Assistant Director, Sarapat
Chang School |
| 5. Mrs. Sukanya Boonyarit | Teacher, Southern Technical
College |
| 6. Miss Lila Santisook | Teacher, Vocational Training
Center |

Pattani

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|--------------------|--|
| 1. Mr. Pan Yuanlae | Deputy Rector Songkhla
Nakarin University Pattani
Compus |
|--------------------|--|

Khon Kaen

- | | |
|----------------------------|---|
| 1. Mr. Tawatchai Saksawang | Provincial Education
Officer |
| 2. Mrs. Dusadee Pongsart | Director of Kalayanawat
School |
| 3. Academician | Office of Provincial
Education Officer |
| 4. Mr. Supot Waitayangkoon | Information Center
Officer, Kalayanawat
School |
| 5. Mr. Sukhum Boonpoom | Head of Service and Plan
Section Kam Kaen Nakorn
School |
| 6. Mr. Niran Krapeedang | Chairman of Work Plan
Committee Kam Kaen Nakorn
School |

7. Vice Chairman of the Planning Committee, 1987

The Office of the National Education Committee

- | | |
|------------------------------|---|
| 1. Mr. Chinnapat Phumirat | Division of Education Research |
| 2. Mr. Sawang Pinmanee | Division of Policy and Educational Plan |
| 3. Mrs. Roonruang Sukhapirom | Division of Policy and Educational Plan |

Office of Permanent Secretary, Ministry of Education

- | | |
|-----------------------------|---|
| 1. Mr. Boonlue Tongyoo | Division Director Division of Work Plan |
| 2. Mr. Subin Samianram | Division of Work Plan |
| 3. Mr. Kitsuwat Hongcharoen | Division of Work Plan |
| 4. Mr. Jantararat Kotekam | Division of Work Plan |

Lampang

- | | |
|-----------------------------|---|
| 1. Mr. Roengsak Korop | Head of Development Plan Section Office of Provincial Education Officer |
| 2. Miss Tasanee Tadtiampong | Secretary of Education Planning Working Group |

The provinces where administrators and relevant personnel answered the questionnaire:

- | | | | |
|---------------|----------------|---------------|----------------|
| 1. Chiangmai | 2. Lampang | 3. Uthaitхани | 4. Kanjanaburi |
| 5. Suratthani | 6. Naratiwas | 7. Songkhla | 8. Khon Kaen |
| 9. Buriram | 10. Pitsanulok | 11. Rayong | |

The Project "Land Distribution and Employment"

- | | |
|----------------------------------|---|
| 1. Mr. Sutthiporn Jirapan | Vice secretary of Agricultural Land Reform Office |
| 2. Mr. Worawet Tamrongtanyalak | Division Director, Division of Agricultural Land Reform Funds |
| 3. Mr. Manote Kootrakul | Head of Planning and Evaluation Section Planning and Technical Division Agricultural Land Reform Office |
| 4. Mr. Porn Tanwanit | Planning and Technical Division Agricultural Land Reform Office |
| 5. Mr. Yongyut Tuangchaitanakorn | Planning and Technical Division Agricultural Land Reform Office |
| 6. Miss Dusanee Pumkaew | Planning and Technical Division Agricultural |

- | | |
|--|---|
| 7. Miss Sujittra Sombundee | Land Reform Office
Planning and Technical
Division Agricultural
Land Reform Office |
| 8. Miss Nomjit Kittichotpanit | Planning and Technical
Division Agricultural
Land Reform Office |
| 9. Mr. Surawoot Muangmee | Division of Legal Act,
Agricultural Land Reform
Office |
| 10. Mr. Somporn Poowatanawiboon | Division of Legal Act,
Agricultural Land Reform
Office |
| 11. Mr. Somchart Janrasamichote | Agricultural Land Reform
Office |
| 12. Mr. Wicharn Namsoongnoen | Land Reform Officer,
Nakorn Rajsim |
| 13. Mr. Surapon Petlorm | Land Reform Officer,
Ayudhya |
| 14. Captain Boontam Surachetpong | Bang Pahan District
Officer, Ayudhya. |
| 15. BhutLao Village Headman | Bang Pahan District,
Ayudhya. |
| 16. Bho Sam Ton Village Headman | Bang Pahan District,
Ayudhya. |
| 17. Bang NaRa Village Headman | Bang Pahan District,
Ayudhya. |
| 18. Mr. Uppachai Panitkul | Senior Assistant
District Officer
Governing Section, Nong
Kae District Saraburi |
| 19. Mr. Pramote Chatsriwanit | Assistant district
Officer, Occupational
promotion Section, Nong
Kae District |
| 20. Mr. E. C Hapman | Australian National
University |
| 21. Mr. Pairat Decharin | Chiangmai Governor |
| 22. Mr. Wicharn Somsri | Agricultural Land Reform
Office, Sukothai |
| 23. Mr. Siang Sakpisit | Division of Agricultural
Land Reform Management |
| 24. Mrs. Suree Suwannut | Division of Land Reform
Funding Service |
| 25. Population in the project site, ie., Ayudhya, Pijit, Nakorn Rajsim and Kanjanaburi | |

The Project "Collection and Storage of Roof Runoff for Drinking Purposes"

- | | |
|--------------------------------|---|
| 1. Mr. Chayatit Vadhanavikkit | Faculty of Engineering,
Khon Kaen University |
| 2. Mr. Pradit Nopmongkon | Faculty of Engineering,
Khon Kaen University |
| 3. Miss Wannasri Boonyaratapan | Faculty of Engineering, |

4. Mrs.Chariya Settabutra Khon Kaen University
Faculty of Education
Khon Kaen University
5. Mr.Pakorn Sriruantong Head of Practices
Division 3 Population
and Community Develop-
ment Association
6.Population in the experimental area of the project

Questionnaire to survey the attitudes
The Research for Development of Provincial
Education Planning

1.1	Sex	Male	Female
1.2	Working experience as government official		
		years.	
1.3	Present position		
	Department	Division	
	Ministry		
1.4	Experiences in Planning		
1.5	Status in the project		
	Member of provincial Development Planning		
	Committee as 1.	Chairperson	
	2.	Member	
	3.	Member and secretary	
	Member of Provincial Development Planning		
	Sub-Committee		
	Member of Working Committee in Provincial		
	Development Planning		
	Others (Please state)		

2.1 Please give your general opinions toward this Project.

2.2 What are the objectives of this project?
What is the nature of your cooperation? (What activities do you take part?
To what extent do you think this project will develop the provincial education ?
Much Little

2.3 The mechanic of planning in your department

After 1985

- 43

- 2.4 The quality of the plans in your department
- possibility: Much Little
 - work following the plan: Efficient Inefficient
 - Efficiency in planning coordination both vertically and horizontally: Efficient Inefficient
 - Information service for planning with other sections both vertically and horizontally: Efficient Inefficient

To conclude : Do you think the quality of the plans and planning in your department are improved from before 1985?

Better The same

- 2.5 In the present conditions, what are the characteristics of the problems in your department or in the areas you are responsible for?

- 1) Problems about information system and service towards planning and decision making:

To conclude - The level of the problems is:

High Low.

- The level of the problems compared to period before 1985:

Improved The same

- 2) Problems about the provincial distribution of education resources.

To conclude - The level of the problem is:

High Low.

- The level of the problems compared to period before 1985:

Improved The same

- 3) Problems about planning coordination between section within and outside of your department.

To conclude; - The level of the problem is :

High Low.

- The level of the problem compared to period before 1985:

Improved The same

- 4) The supervision and follow-up system of implementation.

To conclude; - The level of the problems is :

High Low.

- The level of the problem compared to period before 1985

Improved The same

2.6 How do you apply the concepts obtained from the participation in provincial education development planning in your department?

To conclude, you think participating in this project is geneficial to you and your department?

Very beneficial

useless

2.7 Do you think this project is beneficial to other section? How ?

Questionnaire To Survey Attitudes
The Research for Development of Provincial Education
Planning (For School Administrators)

Part I Personal information

- 1.1 Sex Male Female
- 1.2 Working experience as government official years
- 1.3 present position
School Province
Department Ministry
- 1.4 Experiences in planning
No experience
Experienced (Please explain)
- 1.5 Are you related to the project?
No
Yes (Please explain)

Part II Information concerning education planning

- 2.1 What is the characteristic of the planning in your school?
Each section plans its own work.
There is a common committee for the whole school.
The head of the section is responsible for the planning by himself.
Others (please state)
- 2.2 Are you concerned with the planning in your school?
No
Yes (Please explain)
Others (Please explain)
- 2.3 Do you know about the project? How?
No
Yes (please explain)

If you do not know anything about the research project, you may stop here.

- 2.4 To what extent do you think this project is useful to the planning of your school?

Much Little
Please state what is being useful

- 2.5 To what extent has the planning of your school been improved when compared to the past academic years?

Much improved Little improved.
Please explain the changes in the following aspects:-

- Planning procedures
- Information system for planning
- Putting plans into practice

- 2.6 If there is a change in the education planning at your school, what do you think forces that change?

Does this project play a part or stimulate such Change?

Much Little

Please explain the condutions stimulating the change.

- 2.7 In the part, before you leaen about this project, what is your opinion towards the level of importance of education planning?

Much Little

- 2.8 At present, now that you are concerned with this project, what is your opinion towards the level of importance of education planning ?

Much Little

- 2.9 What is your general opinion towards this project?

- 2.10 In your opinion, if there will be an improvement or support to provincial education planning, what should be improved and/or supported?

Means for the analysis of impacts at a practical
level of the research for development of
provincial education planning

Items to be evaluated	Information resources/ Informants	List of questions
Efficiency of Project towards expected solutions of basic problems	<ul style="list-style-type: none"> - Provincial education Officer - Provincial education technical technical - Provincial Common education officer - Director of provincial primary education - Head of supervision Unit - Planning officer of supervision unit - Administrators of educational institutes 	<p>1) Do you know the objective of the Project? What is/are the nature of your participation in this project?</p> <p>2) The planning mechanic of your department at present and before academic year 1985:-</p> <p>2.1 Planning committee/cooperating planning committee</p> <ul style="list-style-type: none"> - policy makers - practising committee <p>2.2 Information resources for annual or long-term planning</p> <ul style="list-style-type: none"> - any information unit? - any officer responsible? - working schedule <p>2.3 Steps in making annual work plan</p> <p>2.4 Quality in planing in your concept</p> <ul style="list-style-type: none"> - possibility of plans. - practices according to plan. - flexibility of plan. - efficiency in plan. ning coordination vertically and horizontally. - information servic for cooperative Planning with other sections.

Items to be evaluated Information resources/
Informants

List of Questions

- | | |
|--|--|
| <p>- Provincial annual and long-term work plans, before and after academic year 1985</p> | <p>3) What are the natures of problematic conditions of the following in your section at present?</p> <p>3.1) Information system, services for planning and decision making</p> <p>3.2) Distribution of educational resources in the province.</p> <p>3.3) Planning coordination between sections within and outside of affiliation.</p> <p>3.4) Supervision system</p> <p>What is the nature of work plan after the project, compared to that before the project?</p> |
|--|--|

List of Information Resources and Questions to study
the impacts of th project "Land Distribution and Employment"

Information Resources

Questions

- project administratofs
and researchers

- 1) What are the major objectives of the project?
- 2) What are the other objectives and expected by-products?
- 3) What problems/obstacles occurred during research implementation? what is/are specially observed?
- 4) Did the imitation of this project stimulate ideas or work implemen-
tation of other sections?
- 5) Was there any section concerned which showed interests, offered cooperation and cooperated in this project?
- 6) Are the findings satisfactory? What are the new arising concepts?
- 7) which secation or department became interested in this project and how were the findings applied? (Please state the name of the department, the characteristics of applications, results of application, and evidence)
- 8) What kind of activites should be arranged in order to make this research even more successful?

-Departments having
related work/
Departments applying
the research results
(as being told)

- 1) Do you know that this project has been conducted?
- 2) What are the ojectives of this project?
- 3) What impacts, benefits did this project bring to your department?
- 4) Did you apply the findings from this project? How?
- 5) If there has been an application of the findings in any project of activity, please conclude the work of the project or activity:-
 - what are the results?
 - Are the results satisfactory? (Please give an indicator towards level of satisfaction)
 - Do you think its success or failure depends on the application of the results of this research? To what extent?

- 6) Do you think you will conduct a similar research study? Why?
- 7) In order to make such research successful, what do you think should be improved in terms of implementation and plan ?

Appendix C

Example of work which showed an impact in terms of the extension of knowledge and experiences obtained from the participation in the research activities. The work is the organization of a training course on "Secondary Educational Development Planning: Pitsanulok", from April 5-7, 1987, at Chalermkhwan Satri School, Pitsanulok. The example consisted of the schedules of the training course in Thai.

Appendix D

Example of work showing an impact in terms of publications of technical papers and a training course.

1. Vadhanavikkit, C. "Ferrocement Water Tank", Rainwater Catchment Seminar, Khon Kaen University, 30 Nov.- 2 Dec., 1983
2. Vadhanavikkit, C. and Viwatanathepa, S. "Brick Water Tank" Rainwater Catchment Seminar, Khon Kaen University, 30 Nov.- 2 Dec. 1983.
3. Vadhanavikkit, C. and Viwatanathepa, S. "Interlocking Mortar-Block Water Tank", Rainwater Catchment Seminar, Khon Kaen University, 30 Nov.- 2 Dec., 1983.
4. Thiensiripipat, N. "Bamboo Reinforced Concrete Water Tanks", Rainwater Catchment Seminar, Khon Kaen University, 30 Nov. - 2 Dec., 1983.
5. Bunyaratpan, V. and Sinsupan, S. "Roof Catchment : Water Quality", Rainwater Catchment Seminar, Khon Kaen University, 30 Nov.- 2 Dec., 1983.
6. Vadhanavikkit, C. "Rainwater Tanks", Annual L.A.D. Conference, Khon Kaen, 19-22 Dec., 1983.
7. Vadhanavikkit, C. "Rainwater Catchment", An International Seminar on Rural Settlements in Asia and the Pacific: Physical Development Issues and Options, Khon Kaen, 24, Jan., 1984.
8. Vadhanavikkit, C. "Roof Catchment Project: Khon Kaen "Second International Seminar on Rain Water Cistern Systems, St. Thomas, Virgin Island, 25-27 June, 1984
9. Vadhanavikkit, C. "A Ferrocement Water Tank for Rural Areas" Second International Symposium on Ferrocement, Asian Institute of technology, Bangkok, 14-16 January, 1985.
10. Bunyaratpan, V. and Sinsupan, S. "Rainwater Quality from Roof Catchment and Storage "Regional Seminar on Rural Water Supply and sanitation for Developing Countries, Chulalongkorn University, Bangkok, 18-25 July, 1983

11. Nopmongcol, P. and Patamatamakul, S. "Hydrologic Studies" A research report on Collection and Storage of Roof Runoff for Drinking Purposes, Vol. 1, Faculty of Engineering, Khon Kaen University, 1984.
12. Bunyaratpan, V. and Sinsupan, S. "Studies of Rainwater Quality", A research report on Collection and Storage of Roof Runoff for Drinking Purposes. Vol. 2, Faculty of Engineering, Khon Kaen University, 1984.
13. Vadhanavikkit, C., Thiensiripipat, N. and Viwathanathepa " Construction Materials, Techniques and Operational Studies", A research report on Collection and Storage of Roof Runoff for Drinking Purposes, Vol. 3, Faculty of Engineering, Khon Kaen University, 1984.
14. Sethaputra, C. "Socio-Economic Studies". A research report on Collection and Storage of Roof Runoff for Drinking Purposes, Vol. 4, Faculty of Engineering, Khon Kaen University 1984.

Publications (in Thai)

1. Vadhanavikkit, C. "Ferrocement Water Tank", A paper prepared for Training Courses of The Parents Plan International, Khon Kaen, 1983
2. Vadhanavikkit, C. "Interlocking Mortar - Block Water Tank" A paper prepared for Training Courses of The Foster Parents Plan International, Khon Kaen, 1983.
3. Vadhanavikkit, C. "Rain Water Tanks" Construction Manuals prepared for training Courses
4. Vadhanavikkit, C. "New Types of Rainwater Tanks for Rural Areas", The Third Technology for Rural Development Conference, Khon Kaen University, 16-17 Feb. 1985.
5. Vadhanavikkit, C. "Long Term Behaviour of Bamboo Reinforced Water Tanks", The Third technology for Rural development Conference, Khon Kaen University, 16-17 Feb. 1985.
6. Sinsupan, S. and Bunyaratpan, V, "Rainwater Quality from Roof Catchment and Storage" The Ninth Conference of Science and Technology for the Northeast, Khon Kaen University, 27-29 October, 1983.
7. Setnaputra, C. "A Study on Socio-Economic and Drinking Water Condition of Selected Villages in the Northeast Thailand, "Educational Research Newsletter, Vol.2, 1983.
8. Sethaputra, C. "A Study on Socio-Economic and Drinking Water Condition of Selected Village in the Northeast Thailand", A research report, Faculty of Education, Khon Kaen University, 1982.
9. Vadhanavikkit, C., Construction Manual for Ferrocement Water Tank, Faculty of Engineering, Khon Kaen University, 1984

Training Activities Completed

1. One class and three field training sessions for technicians from the Foster Parents Plan International.
2. One class and one field training session for technicians from the Khon Kaen University- New Zealand Water Resources project.
3. One field training session for the Office of Accelerated Rural Development
4. Three class training periods for government officials from the Royal Irrigation Department, Department of Local Administration, Community Development Department, Land Development Department, Provincial Administrative Office, Office of Accelerated Rural Development, and Department of Mineral Resources.
5. Two class training periods for teachers from five vocational colleges in the Northeast.
6. Two class training periods for students from vocational colleges in two provinces: Bureerum and Ubonrachatanee.

Achievements

1. Two Non-government Agencies : The Foster Parents Plan International and the Khon Kaen University- New Zealand Water Resources Project have adopted the design of the Ferrocement Water Tank for Implementation.
2. It was found that the popular bamboo reinforced concrete water tanks are not suitable because the bamboo deteriorates. The Ministry of Interior affairs has now adopted as the national policy not to construct bamboo reinforced concrete water tanks.
3. Because of the unsuitability of the popular bamboo reinforced concrete water tanks, all agencies concerned are looking for alternative water tank designs. Two Types of our tanks : Ferrocement and Interlocking Mortar - Block are being considered as alternatives.
4. Mr. Chayatit Vadhanavikkit was appointed as an honourable technical adviser to the Population and Community Development Association.
5. Associate Professsor Dr.Sacha Sethaputra, the Dean, has been appointed as a member of the Clean Water Committee. This is the national body that advises the government, concerning the policy on providing clean water for villagers in rural areas.
6. Project reports and the construction manuals have been distributed to the national and international agencies involved in rainwater collection.
7. The project report and tank construction manuals were presented to His Majesty the King. His Majesty expressed considerable interest and requested more information when available.

Evaluation Team

1. Associate Professor Dr.Yaowadee Wiboonsri
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Education,Chulalongkorn University
2. Assistant Professor Thai Tipsuwankul, Sukhothai
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3. Ajarn Supak Piboon Supervision Unit, Department
of Common Education, Ministry of Education.